

What is claimed is:

- 1) A composite sandwich comprising:
- A) a multi-void core having at least two planar surfaces;
and
 - B) layers of composite stiffening material attached to said
at least two planar surfaces.

2) The composite sandwich of claim 1 wherein said multi-void core
comprises a member selected from the group consisting of polymers
and metals.

3) The composite sandwich of claim 2 wherein said multi-void core is
fabricated from aluminum, copper or alloys of aluminum or copper.

4) The composite sandwich of claim 2 wherein said multi-void core is
fabricated from a polymer, copolymer or mixture of polymers.

5) The composite sandwich of claim 2 wherein said multi-void core
comprises an extrusion.

6) The composite sandwich of claim 2 wherein said layers of composite
stiffening material comprise a member selected from the group
consisting of metal matrix and polymer matrix composites.

7) The composite sandwich of claim 6 wherein said layers of composite stiffening material comprises a metal matrix composite.

5 8) The composite sandwich of claim 2 wherein said core comprises an aluminum or aluminum alloy extrusion, and said layers of composite stiffening material comprise an aluminum metal matrix composite.

10 9) The composite sandwich of claim 8 wherein said aluminum metal matrix composite includes continuous ceramic fibers or ceramic particles.

15 10) The composite sandwich of claim ¹⁹1 wherein said multi-void core comprises a micro, multi-void.

11) The composite sandwich of claim 10 wherein said multi-void core comprises a member selected from the group consisting of polymers and metals.

20 12) The composite sandwich of claim 11 wherein said multi-void core is fabricated from aluminum, copper or alloys of aluminum or copper.

- 13) The composite sandwich of claim 11 wherein said multi-void core is fabricated from a polymer, copolymer or mixture of polymers.
- 14) The composite sandwich of claim 11 wherein said multi-void core comprises an extrusion.
- 15) The composite sandwich of claim 11 wherein said layers of composite stiffening material comprise a member selected from the group consisting of metal matrix and polymer matrix composites.
- 16) The composite sandwich of claim 15 wherein said layers of composite stiffening material comprises a metal matrix composite.
- 17) The composite sandwich of claim 11 wherein said core comprises an aluminum or aluminum alloy extrusion, and said layers of composite stiffening material comprise an aluminum metal matrix composite.
- 18) The composite sandwich of claim 17 wherein said aluminum metal matrix composite includes continuous ceramic fibers or ceramic particles.

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